



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,080	03/13/2001	Satoshi Arakawa	Q61195	9113

7590 01/14/2004

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3202

EXAMINER

LEE, SHUN K

ART UNIT PAPER NUMBER

2878

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,080

Applicant(s)

ARAKAWA ET AL.

Examiner

Shun Lee

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003 and 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 3,5-10,12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/13/01 & 9/25/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 25 September 2003 and 24 October 2003 has been entered.

Election/Restrictions

2. Applicant's election without traverse of Group I and Species A (claims 1, 2, 4, and 11) in Paper No. 8 is acknowledged.

3. Claims 3 and 5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

4. Claims 6-10, 12, and 13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

Drawings

5. The drawings were received on 25 September 2003. These drawings are acceptable.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 2, 4, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma (US SIR H1201) in view of Hosoi *et al.* (US 4,880,987) and Verbeke *et al.* (US 5,519,229).

In regard to claim 1, Sakuma discloses (Fig. 3) a radiation imaging panel (3, 5, or 7) having a rectangular shape, wherein the shape of the radiation imaging panel is asymmetric with respect to a center axis of the radiation imaging panel, which center axis extends in an antero-posterior direction of the radiation imaging panel.

The radiation imaging panel (3, 5, or 7) of Sakuma lacks that it is a storage panel comprising a stimuable phosphor layer overlaid on the front surface side of a

transparent substrate wherein the front surface side of the transparent substrate faces a radiation source. However, storage panels are well known in the art. For example, Hosoi *et al.* teach (Fig. 5; column 6, lines 14-17) a storage panel (1) comprises a stimutable phosphor layer (1B) overlaid on a front surface side of a transparent substrate (1A) and (column 5, lines 3-14) that the storage panel (1) is position so that radiation is incident from the side opposite the transparent substrate (1A). Thus it is well known in the prior art that a storage panel comprising a stimutable phosphor layer overlaid on the front surface side of a transparent substrate wherein the front surface side of the transparent substrate faces a radiation source.

In addition, Sakuma also discloses (Fig. 3) that when a shaped radiation imaging panel (3, 5, or 7) is used within a correspondingly shaped X-ray photography cassette (4, 6, or 8, respectively), the front side of the radiation imaging panel (3, 5, or 7) can be positioned properly (column 1, lines 23-33) within the X-ray photography cassette (4, 6, or 8, respectively). Further, Verbeke *et al.* teach (in the description of the prior art from line 15 in column 1 to line 13 in column 2) it is known in the radiography art that a storage panel offers the advantages of re-usability and better image resolution at lower dosages for a patient and that typically the storage panel is used within conventional X-ray photography cassettes. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a well known storage panel as the radiation imaging panel (3, 5, or 7) of Sakuma, in order to obtain better image resolution at lower patient dosages while ensuring proper positioning of the well known storage panel within the X-ray photography cassette.

Art Unit: 2878

In regard to claim **2** which is dependent on claim 1, Sakuma also discloses (Fig. 3) that a shape (I) of one corner area, which is among four corner areas of the radiation imaging panel (3, 5, 7), is different from shapes of the other three corner areas.

In regard to claim **4** which is dependent on claim 1, Sakuma also discloses (Fig. 3) that one of a cutaway region, a projecting region, and a hole is formed only at one corner area, which is among four corner areas of the radiation imaging panel (3, 5, 7), or in the vicinity of the one corner area.

In regard to claim **11** which is dependent on claim 1, Sakuma also discloses (Fig. 3) a cassette (4, 6, or 8), comprising an accommodating section for accommodating a radiation imaging panel (3, 5, 7) as defined in claim 1, wherein the accommodating section has a shape (I') such that, due to the asymmetric shape of the radiation imaging panel (3, 5, 7), the radiation imaging panel (3, 5, 7) is prevented from being accommodated in the accommodating section with a front surface and a back surface of the radiation imaging panel (3, 5, 7) being reversed.

Response to Arguments

9. Applicant's arguments filed 25 September 2003 have been fully considered but they are not persuasive.

Applicant argues (first two paragraphs on pg. 3 of remarks filed 25 September 2003) that the stimuable phosphor layer is not overlaid on the front surface side of a transparent substrate, but on a back side of the transparent substrate 1A of Hosoi *et al.* and cites Fig. 5 and column 5, lines 15-17 of Hosoi *et al.* as support. Examiner respectfully disagrees. It is noted that column 5, lines 15-17 of Hosoi *et al.*

Art Unit: 2878

state that "The stimulating ray source 2 linearly emits stimulating rays onto the stimuable phosphor sheet 1 via the slit member 2A". Thus it is unclear what characteristic of the plurality of surface sides of transparent substrate 1A lead to one side being labeled the back side by applicant. First it should be recognized that a transparent substrate has a plurality of surface sides. Amended independent claim 1 recites the limitation of a "transparent substrate and stimuable phosphor layer overlaid on a front surface side of the transparent substrate wherein the front surface side of the transparent substrate faces a radiation source". Hosoi *et al.* state (column 5, lines 3-14) that "The stimuable phosphor sheet 1 comprises a transparent substrate 1A positioned on the stimulating ray source 2 side, and a stimuable phosphor layer 1B fabricated of BaFBr:Eu, a long wave cut-off filter layer 1C, and a wavelength converting phosphor layer 1D fabricated of ZnS:Cu which are overlaid in this order on the transparent substrate 1A. The stimuable phosphor sheet 1 is exposed to a radiation in a radiation image recording apparatus (not shown) so that the radiation first impinges upon the wavelength converting phosphor layer 1D, and a radiation image of an object is stored in the stimuable phosphor layer 1B". Thus Hosoi *et al.* explicitly disclose that the radiation first impinges upon the layer 1D. Therefore, using the "front" surface side as described in the claims, the stimuable phosphor layer 1B is overlaid on the "front" surface side of the transparent substrate 1A of Hosoi *et al.* wherein the "front" surface side of the transparent substrate 1A faces a radiation source since the radiation first impinges upon the layer 1D.

In response to applicant's argument (third paragraph on pg. 3 of remarks filed 25 September 2003) that a cassette and an image storage panel used must be compatible in order to function appropriately and that modifying the cassette of Sakuma to incorporate the stimulable phosphor layer and transparent substrate of Hosoi *et al.*, would require a substantial reconstruction and redesign of Sakuma as well as a change in the basic principle under which the construction was designed to operate, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In addition, applicant fails to specify the incompatibilities between the cassette of Sakuma and an image storage panel (and the reconstruction, redesign, and the basic operating principle changes). Moreover as discussed in the previous office action, Verbeke *et al.* state (column 2, lines 1-13) that "The cassettes used in PSL radiography must have external dimensions which, are compatible with those of conventional X-ray photography cassettes so that the PSL cassettes can be exposed in the cassette holder of a conventional X-ray machine. This is not, of course, to imply that all radiography cassettes are of the same format: they are not, they vary in format from about A5 paper size suitable for wrist X-rays to about A2 for chest X-rays and even larger. In fact, the practice has developed of depositing the phosphor layer on a conventional X-ray film base and of exposing it in a conventional X-ray photography cassette which is modified

Art Unit: 2878


only in that it does not contain any X-ray sensitive luminescent layer". Thus it is clear that image storage panels are typically used with "conventional" cassettes. Therefore, applicant's arguments are not persuasive.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878

SL